

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001108**Date Inspected:** 27-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	ZPMC- Zhu Zhong Hai and Zhao			CWI Present:	Yes	No
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A

Bridge No: 34-0006**Component:** 114m, 89m and 77m Mock-up**Summary of Items Observed:**

On this date, the Caltrans Quality Assurance (QA) representative, John P. Tracy, conducted assessments while on site at Zhenhua Port Machinery Company (ZPMC) for Caltrans Project 04-0120F4-SAS. The following is the detailed review of the following observations:

Bay 1: Submerged Arc Weld (SAW) gantry welder is inactive. The #1 deck mock-up, closed U-rib Partial Joint Penetration (PJP) welds are being evaluated by American Bridge Fabricator (ABF) by means of Angle Beam Ultrasonic Testing (ABUT). The area is set up for ABUT and operations are on going.

Bay 2 operations: The 77m mock-up has tack welding complete and all tack welds are ground down. Root pass welding is ongoing for all shifts by ZPMC welders. Dry Magnetic Particle Testing (DMT) inspections have been completed for all completed root pass welds. ZPMC Certified Welding Inspector (CWI) Zhu Zhong Hai and Bureau Veritas (BV) representative, Li Wen Sheng, notified the Caltrans representative that the root pass on weld joint number MUA-MA1 E/F-18 was DMT inspected on an off shift. The ZPMC inspector found the entire length of the root pass was cracked. ZPMC workers excavated the weld, re-DMT inspected the area and replaced the root pass. The new weld was also DMT inspected and found to be in compliance with the criteria set forth within contractual documents. The BV representative told the Caltrans representative that he was present during the process.

Ongoing thermal operations continue for areas which include both diaphragm to skin plate attachment welds and skin plate to skin plate attachment welds per WPS-B-T-4312-TC-P5-1 (2G) and WPS-B-T-4313-TC-P5-1(3G) under Flux Cored Arc Weld (FCAW) process. Lifting lugs continue to be welded to the exterior per WPS-B-P-2213-TC-U5B with Shielded Metal Arc Weld (SMAW) process.

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89m mock-up, MUSB-MA26-1 and -2 shear link assembly is cold and inactive. ZPMC CWI, Zhao Chen Sun, stated that the component was supposed to work but all available welders were being utilized on the 77m mock-up.

89m MUSB-MA29 Cross Brace has preheat being established in order to fabricate stiffeners into their positions. These components have been tack welded and have root passes already in place. No welding operations or parameters were noted.

89m MUSB-MA21 (Skin E) to SA215 doubler plate for weld numbers MUSB-MA21 B/J -5 and -6 require a 10mm fillet weld per the approved drawings. ZPMC Quality Control (QC) inspector- Zhang Lei notified the Caltrans representative that the additional weld material was placed on the insufficient fillet welds. Observations of these areas, by the Caltrans representative, verified that the welds had been completed and that they appeared to conform to the criteria set forth within the contractual documents.

89m MUSB-MA22 (Skin D) ZPMC continues to fabricate on the attachment welds for the connection plates via Shielded Metal Arc Weld (SMAW) process under WPS-B-T-4312-TC-P5-1. ZPMC welders continue to perform objectionable welding techniques that constitute welding which does not conform to the visual standard set forth in code. The welders also continue to practice poor cleaning techniques during the welding process. ZPMC welder Wang Zhong Hua (053753) demonstrated this directly in the presence of ABF inspector Mr. Kevin Dye. The ABF inspector was made aware of the issues surrounding this component plus that a written incident report was generated on 12/26/2007 for the above said discrepancies. Further action is pending.

114m Upper Section mock-up has SAW operations ongoing on weld number MUC-MA106 B/C-2A under WPS-B-T-2221-C-U2b-S with Xu Yan (052917) welding and Lu Jian Ping, ZPMC CWI, was present. The Caltrans representative observed the CWI taking welding parameters and monitor cleanliness conditions for these operations. All observed parameters appeared to be in compliance with the criteria set forth within contractual documents.

114m Lower Section mock-up is inactive.

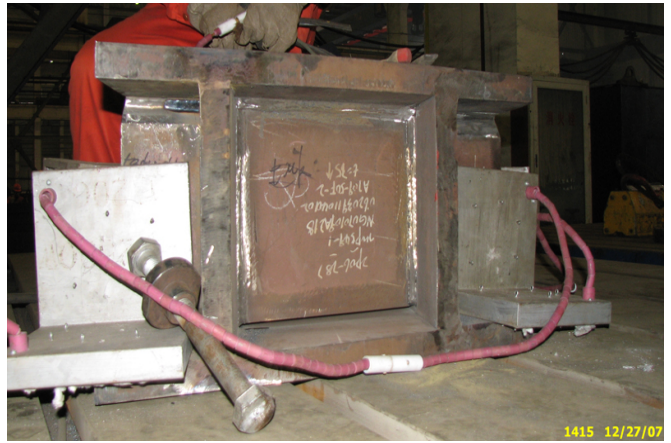
114m interior splice plates (Plates B, C, D and E) have completed machining and boring operations. MUC-A58 (plate A) has heat straightening operations ongoing.

Electrode Storage Room- The consumable electrode issue logs are still completely written in Chinese characters and after several attempts to rectify them. Temperatures appear to be within parameters for storage.

Included below are digital pictures that support the observations recorded within this report.

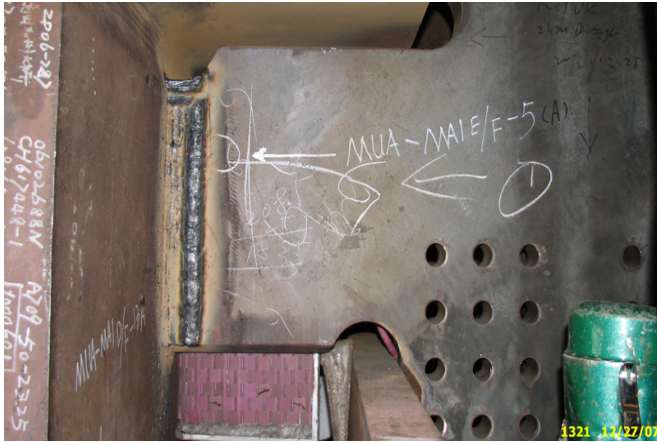
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Summary of Conversations:

At the completion of the above stated dimensional inspections the ZPMC Certified Welding Inspectors, Zhu Zhong Hai, Zhao Chen Sun and Lu Jian Ping, reported that the parameters followed and their noted results were found to be in accordance with the criteria set forth within the contractual documents.

The Caltrans representative had further discussions with ABF inspector, Mr. Kevin Dye, in regards to the cleaning and welding practices on MUSB-MA22-Skin D.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Tracy, John	Quality Assurance Inspector
Reviewed By:	Cuellar, Robert	QA Reviewer